

Quentin MORENO-GELOS

PROFILE

Data Scientist and Physicist with a strong focus on data analysis and visualization. Expertise in developing theoretical models and analyzing complex datasets generated from simulations. Passionate about collaborating on data-driven projects and open-source initiatives.

CONTACT DETAILS

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 [Portfolio](#)

✉ Saint Laurent des Hommes

PERSONAL INFORMATION

Citizenship: **French**

Family: **Single without children**

Languages: **French**(native),
English(fluent), **Spanish**(Basic)

PROGRAMMING LANGUAGES

- Python/SQL/Fortran95

ANALYSIS & VISUALIZATION TOOLS

- Pandas/Dask/
Dash/Matplotlib/PowerBI

COMMUNICATION TOOLS

- HTML/Git/LaTeX

MACHINE LEARNING

- Regression/Classification/
Clustering techniques

SCIENTIFIC EXPERTISE

- Plasma Instabilities
- Shock formation
- Laser plasma interaction
- Kinetic Particle-in-cell [code](#)
- Magneto-hydrodynamic [code](#)

EXPERIENCE

POSTDOCTORAL FELLOW at *ELI-beamlines*

2019.01–2023.12

- ◇ Conducted theoretical studies on radiative and adiabatic shocks relevant to laboratory astrophysics.
 - Designed analytical self-similar models to enhance understanding of shock dynamics.
 - Executed Magneto-Hydrodynamic Adaptive Mesh Refinement (AMR) simulations using supercomputing resources ([Sunrise](#)).
 - Developed data visualization tools for AMR simulations using Matplotlib to effectively communicate results.
 - Analyzed extensive datasets to validate analytical models against numerical simulations and inform decision-making processes.
 - Collaborated with interdisciplinary teams to design and implement complex laboratory experiments validating theoretical predictions.
 - Published findings in peer-reviewed journals and presented at international conferences.
- ◇ Conducted numerical analysis to support various research projects.
- ◇ Supervised a first-year master's student for 3 months.

PHD STUDENT at *Bordeaux University*.

2015.10–2018.12

- ◇ Conducted theoretical studies on plasma instabilities leading to collisionless shocks in laboratory astrophysics.
 - Designed analytical models to explore plasma collisionless shock formation.
 - Executed Particle-In-Cell (PIC) simulations using supercomputing resources ([CINES](#)).
 - Developed data visualization tools for PIC simulations using Matplotlib to effectively communicate results.
 - Analyzed extensive datasets to validate analytical models against numerical simulations and inform decision-making processes.
 - Collaborated with interdisciplinary teams to design and implement complex laboratory experiments for model validation.
 - Published findings in peer-reviewed journals and presented at international conferences.
- ◇ Course examiner at *Bordeaux University*
 - Gained teaching experience across Bachelor's and Master's levels.

PUBLICATIONS

- ◇ 13 publications in peer-reviewed journals (h-index: 8 [researchgate](#))
- ◇ Independent studies employing data analysis techniques across a diverse array of topics: [Portfolio](#)

EDUCATION AT BORDEAUX UNIVERSITY

DOCTORAL DEGREE: Astrophysics, plasma and nuclear **2015–2018**

- ◇ Thesis title: *Non-relativistic collisionless shocks in Laboratory Astrophysics*.

MASTER'S DEGREE: Theoretical physics

2013–2015

- ◇ Astrophysics, Statistical physics, numerical methods